TOBACCO INDUSTRY RESEARCH COMMITTEE

CONFIDENTIAL

TIRC Grant #218 (Cf. #50A - PAS Study) Report No. 1

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Memorial Hospital of Chester County

February, 1960

A Selected, Extended and Detailed Study of Human Bronchial Mucosa

December 2, 1959

In our present study, we are dissecting the entire tracheobronchial tree and blocking all sections for histologic study. Depending on the size of the patient, the number of slides prepared varies, therefore, from approximately 200 to 250 per case. The material studied represents tracheobronchial epithelium from patients living in rural areas, suburban areas and medium sized cities at the present time. Our overall incidence of metaplasia to date is approximately 40% and of hyperplasia approximately 20%. In our non-smokers, our present incidence of metaplasia is approximately 30% and of hyperplasia 40%. In smokers (more than one package of cigarettes a day), the incidence of metaplasia is approximately 50% and of hyperplasia less than 10%. In none of our cases to date, in the present study which was begun in May, 1959, have we found carcinoma in situ, in spite of the fact that the entire tracheobronchial tree was dissected, and also that several of the cases of metaplasia were markedly atypical and would appear to present cellular abnormalities which at least approach some of those described by Auerbach as carcinoma in situ.

To date, we have prepared approximately 1200 slides and again, in order to eliminate cases immediately in which the bronchial epithelium is not suitable for study, we have not included in the above series any lungs in which there was any appreciable degree of autolysis or mechanical artefacts noted in the tracheobronchial epithelium. At this time, we feel rather strongly that the present study, because of the larger number of sections taken, the elimination of cases where any appreciable artefact is present, the inclusion of equal numbers of smokers and non-smokers and the more rigid and more acceptable interpretation of what constitutes carcinoma in situ, will be more generally scientifically acceptable, than the studies that have been performed in past, such as the much publicized Auerbach Report.

February 1, 1960

After approximately two months of anatomical study and experimentation in complete dissection of the tracheobronchial tree the method of coding and localizing of bronchial sections was, we feel, improved considerably (see enclosed diagram) over that used by Auerbach. We also worked out a screening process by which cases displaying autolysis or other physical, chemical or pathological changes rendering the bronchial epithelium unfit for accurate microscopic study were eliminated early in the dissection of a lung, and prior to the time a great deal of useless work had been performed. The method of reporting was also changed to individual descriptions of each bronchial section and surrounding lung, vascular and lymphoid tissues (see attached sample sheets). This latter method makes it possible to code and pinpoint, without time-consuming review, all pathological changes in all sections of each lung.

I circulate at meeting

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To date 28 cases are under study (approximately 6000 slides) of which approximately 12 cases (2400 slides) are completed. 13 cases (2800 slides) are partially completed. In ten additional cases (approximately 700 slides) we have decided the bronchial mucosa is unfit for accurate study and these cases and slides are therefore eliminated. Although this appears to be a slow and tedious process I feel after several years it will yield results which can be reviewed without difficulty by any qualified pathologist. Our findings should also help provide answers to many of the serious questions raised about the Auerbach study by recognized pathologists.

We do not feel a sufficient number of cases have been completed to date to justify any statistical evaluation although our results to date are essentially similar to those outlined during our August meeting in New York and in my letter of December 2, 1959 (preceding).

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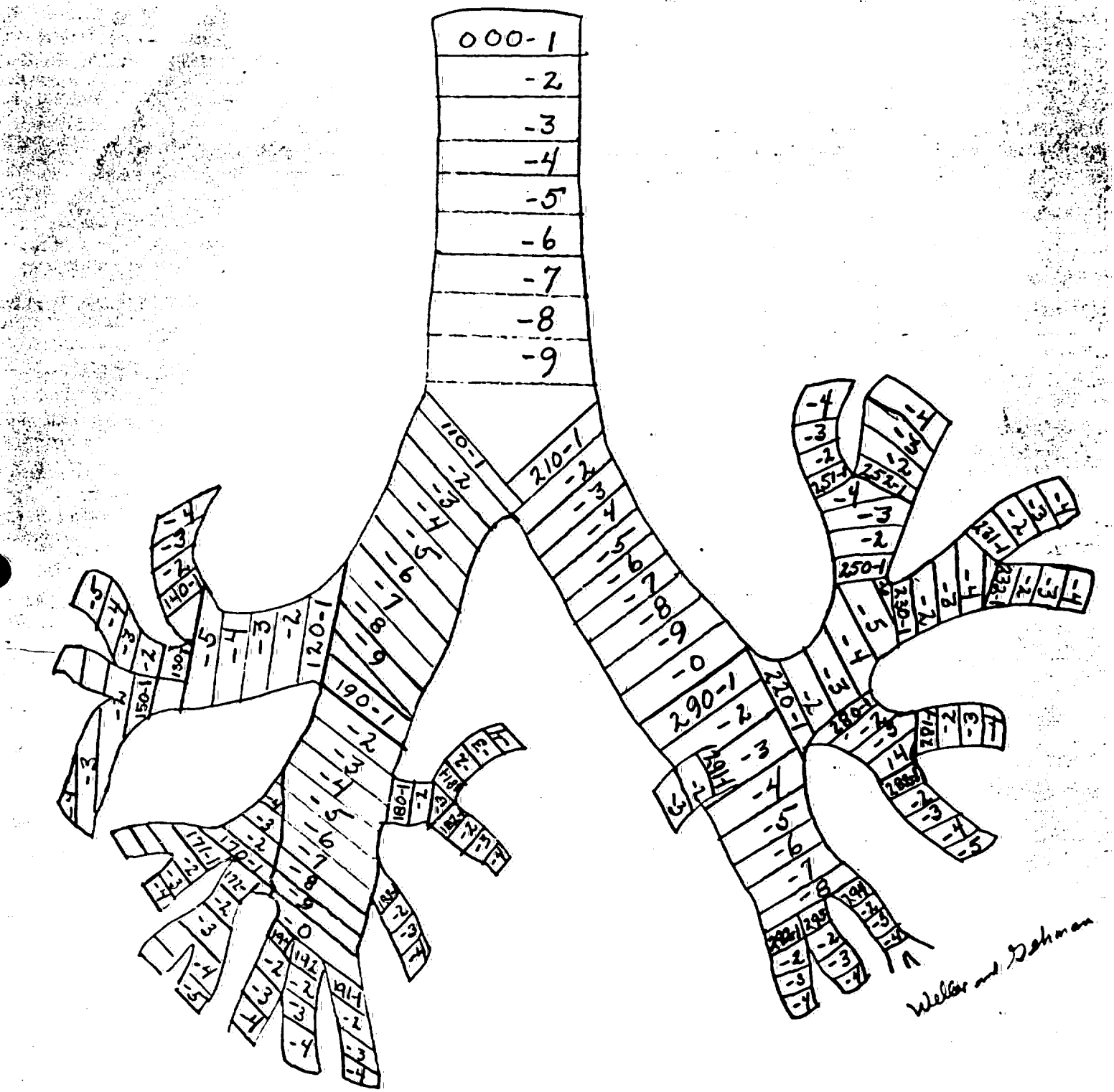

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